

Notice of Allowability

Application No.

09/845,231

Examiner

Mary Kate B. Baran

Applicant(s)

HALLIYAL ET AL.

Art Unit

2857

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 03 January 2006.
2. ☒ The allowed claim(s) is/are 1-5, 28, 29 and 35-37.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|--|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____ | 7. <input type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____. |

DETAILED ACTION

Response to Amendment

1. This action is responsive to the Amendments filed 03 January 2006. Claims 1-5, 28, 29 and 35-37 are pending. Claims 35 and 36 are amended

Allowable Subject Matter

2. Claims 1-5, 28, 29 and 35-37 are allowed.

3. The following is an examiner's statement of reasons for allowance:

Claims 1-5 are allowable over the prior art because a system for controlling a thin film deposition process, comprising: a processor that communicates with the scatterometry system and the thin film deposition component driving system, the processor analyzes the deposited thin film by partitioning a conceptual mask into a plurality of grid blocks mapped on the wafer and determines deposition parameter adjustments for the one or more deposition components, the deposition parameter adjustments based at least in part upon data received from the scatterometry system is not found, taught or suggested in the prior art of record.

Claims 28 and 29 are allowable over the prior art because a method for monitoring and controlling the deposition of a thin film, comprising: using a processor to partition the thin film into one or more conceptual grid blocks; directing a light within the one or more grid blocks associated with the thin film; employing a scatterometry system to analyze the reflected light from the one or more grid blocks associated with the thin

film to determine one or more properties of the thin film; and monitoring structural irregularities of the deposited thin film by comparing reflected light data collected from the one or more grid blocks associated with the thin film with a database comprising known thin film reflected light signatures is not found, taught or suggested in the prior art of record.

Claim 35 is allowable over the prior art because a method for regulating a process for depositing a thin film, comprising using a processor to partition the thin film into one or more conceptual monitoring zones; and determining the characteristics of the deposited thin film at the one or more monitoring zones by utilizing reflected light to generate a signature and comparing the signature to known thin film reflected light signatures is not found, taught or suggested in the prior art of record.

Claim 36 is allowable over the prior art because a system for regulating a process for depositing a thin film comprising: means for using a processor to map the thin film into one or more grid blocks on a conceptual coordinate system to coordinate control of the one or more deposition components to deposit the thin film, and to determine the acceptability of the thin film deposition by comparing the known thin film signatures to reflected light is not found, taught or suggested in the prior art of record.

Claim 37 is allowable over the prior art because a system for controlling a thin film deposition process, comprising: a coherent light source directed onto one or more conceptual grid blocks of the thin film; a scatterometry system that analyzes the reflected light to determine one or more properties of the thin film at the one or more grid blocks; and a processor that control the at least one deposition component based

at least in part on data received from the scatterometry system is not found, taught or suggested in the prior art of record.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mary Kate B. Baran whose telephone number is (571) 272-2211. The examiner can normally be reached on Monday - Friday from 9:00 am to 6:00 pm.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marc S. Hoff can be reached on (571) 272-2216. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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